

Work Order ID 60487

July 13, 2010 8:54:02 AM



Page 1

Item ID: D3605-1

Accept



Setup

Start



Revision ID:

Stop



Item Name: Placard

Start Date: 7/13/10

Start Qty: 5.00



Cust Item ID:

Required Date: 7/14/10

Req'd Qty: 5.00



Customer:

Reference:

Run

Start



Approvals: Process Plan: CL

Date: 10/17/13 Tooling:

Date:

QC: _____

Date: _____ SPC (Y/N): _____

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3605

Rev A

100



Purchasing

Purchasing

PURCHASING

Memo

Issue P/O: 12236 ☐ Manufacture as per Dwg D3605 using 3M 4mil classic plus clear vinyl with flexon flextwin white barrier film. ☐ Possible Supplier: Studio Lettrage ☐ Material release note is required

0.00

0.00

CL 10/17/13



110



Packaging

Packaging

Receive & Inspect for Damage & Mat'l Certs

Memo

Ensure material release note is attached

0.00

0.00

CL 10/17/13



120



QC

Quality Control

QC6- Inspect dimensions to drawing

Memo

0.00

0.00

CL 10/17/13



W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:			WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 60487

July 13, 2010 8:54:02 AM



Page 2

Item ID: D3605-1

Accept



Setup

Start



Revision ID:

Item Name: Placard

Stop



Start Date: 7/13/10

Start Qty: 5.00



Cust Item ID:

Required Date: 7/14/10

Req'd Qty: 5.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

Identify as per dwg & Stock Location: 508

0.00



Packaging

Memo

0.00

Packaging

6/10/11/16 (8)

140

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

MF 10-7-16

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:			WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July 13, 2010 8:54:02 AM

Page 1

Work Order ID: 60487

Parent Item: D3605-1

Parent Item Name: Placard




Start Date: 7/13/10

Required Date: 7/14/10

Start Qty: 5.00

Required Qty: 5.00

Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3605-1P  PLACARD		Purchased	No				Each	0.0000	1	5			



10/7/10 *(S)*

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:			WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3605	REV. A SHEET 1 OF 1
DATE 07.02.27		TITLE PLACARD	SCALE 1:1
A	07.02.27	NEW ISSUE	

RELEASED
07.04.03

1.00
CARGA DISTRIBUÍDA MÁXIMA
20.50

CL 1017/13
W/O: 60487

D3605-1 PLACARD

MATERIAL: 1" HIGH RED LETTERS ADHESIVE BACK
MANUFACTURED FROM 3M 7 MIL MASKING FILM #8522CP OR
AVERY IPM #2031

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PRODUCT DATA BULLETIN

Product Data Bulletin: A5-O

Avery Graphics™ A5 Opaque
5-year **INTERMEDIATE** calendered vinyl film
Dated: 10/3/02

Description:

Avery Graphics™ A5 Opaque intermediate films are flexible, high-gloss calendered vinyls designed for use on computer sign cutting equipment. This construction provides excellent cutting, weeding and transferring characteristics for signage applications.

Application information can be found in the Avery Graphics Application Guide.

For surface preparation, converting and printing, and application and removal instructions, please refer to the Avery Graphics Instructional Bulletin.

Construction:

- Face Film: 3.2 mils opaque medium gloss intermediate calendered vinyl film
- Adhesive: 1.0 mil clear acrylic permanent solvent pressure-sensitive adhesive
- Liner: 78# bleached white kraft

Physical Properties:

The following information on physical and chemical characteristics is based upon tests believed to be reliable. The values are intended only as a source of information. They are given without guarantee and do not constitute a warranty. The purchaser should independently determine, prior to use, the suitability of this material for his/her specific purpose. (Data represents averages and is not intended for use as a specification).

- Outdoor durability: 5 years when properly processed and applied (vertical exposure, unprinted film)**
- Application surface contours: Flat and simple curves
- Minimum surface and air application temperature: +50° F (10° C)
- Service Temperature Range: -40° F to +180° F (-40° C to 82° C) (Reasonable range of temperatures which would be expected under normal environmental time and temperature conditions)
- Typical Chemical Resistance: Resistant to most mild acids, alkalis and salt solutions. See instructional bulletin for recommendations on cleaning.
- Shelf Life: One year when stored at the following temperatures and humidity conditions: 68°-77° F (20°-25° C) and 50±5% R. H.

- Typical Adhesion Values: **180° Peels**

Substrate	24 hrs	1 week
Stainless Steel	4.4 lbs/in	5.1 lbs/in
Glass	4.7 lbs/in	5.3 lbs/in

NOTE: Tested per ASTM D 1000. Always pre-test your specific substrate prior to actual application.

- Reflectivity: NA
- Typical Gloss*: 70 at 60°

Avery Graphics™ A5 Opaque page 1 of 2
AnswerLine: 800-443-9380
Signage.averygraphics.com



Scotchcal™

Opaque Imaging Media 8522

Product Bulletin 8522

Release F, Effective January 2003
Black bar in margin indicates a change

Description

This media is specially formulated to dry quickly after printing. Production of outdoor weatherable and long-term indoor durable graphics is now easier than ever. Its changeable adhesive allows easy removal for up to one year.

Advantages

- Optimized for use with selected Epson Stylus Pro printers and Epson Archival inks.
- Optimized for use with selected HP DesignJet Printers and HP DesignJet Ink System UV or HP83UV Color Ink System
- For making opaque, laminated graphics that are outdoor weatherable and long-term indoor durable
- Media:
 - For opaque (reflective) graphics
 - Changeable, easy to remove from warranted substrates up to 1 year later
 - Dries quickly after printing so the overlamine can be applied almost immediately
 - Low slippage paper liner for superior tiling
- Overlaminates:
 - Provide additional UV (ultraviolet) and physical protection for making weatherable finished graphics
 - Available in luster and matte gloss
 - Adhesive allows for heat-assisted or cold-temperature lamination

Applications and Uses

3M™ Scotchcal™ Changeable Opaque Imaging Media 8522 is intended only for ink jet printing and for use with the listed Compatible Products and Equipment and the following applications. Any other application is NOT warranted by 3M or covered by the worldwide 3M™ MCS™ Warranty unless 3M gives its prior written approval for the application.

- First surface images (the image is on top of the film) for opaque posters and signs, including:
 - Graphics for vans, personal vehicles, trucks and buses
 - Novelty posters
 - Retail and point-of-purchase displays
 - Information graphics such as maps and directories
 - Entertainment promotions in museums, zoos, parks, theatres, sports venues
 - Education and presentation graphics

- Legal and courtroom exhibits

- For flat or simple curved surfaces, with or without rivets, used in vertical ($\pm 10^\circ$) applications

Limitations of End Uses

The following uses and applications are specifically NOT warranted.

- Fleet applications in areas that use salt for winter road maintenance
- Application to non-warranted substrates, including wall-board
- Applications subjected to gasoline vapors or spills
- Application to corrugated or highly irregular surfaces or sharply raised areas
- Graphics applied to stainless steel, including stainless steel vehicles
- On flat surfaces with rivets, tenting of 4 to 10 mm around rivets may be expected; rivets may be cut around to eliminate tenting.

Note: Standard ink jet technology is water based. Water-based chemistry is susceptible to the extremes of heat and humidity. This is a factor in most product constructions on the market. Read the Fabrication, Shelf Life and Storage sections in this bulletin. Staying in the middle of these ranges always provides optimum performance.

Compatible Products and Equipment

Thermal Ink Jet Printing Systems

- Epson Stylus Pro 9500, Stylus Pro 10000 printer
 - Epson Archival Inks
- Epson Stylus Pro 10600 printer
 - Epson Archival Inks
- HP DesignJet Printers 2000 and 3000 series
 - HP DesignJet Ink System UV (pigment-based ink)
- HP DesignJet Printers 5000 series
 - HP83UV Color Ink System

Overlaminates (required)

- 3M™ Luster Overlamine 8519 (semi-gloss)
- 3M™ Matte Overlamine 8520

Note: For the full product names of the 3M products listed on this page, please see page 1.

Warranted Substrates

Media 8522 is warranted for use on the following rigid substrates.

Some substrates may "out-gas", resulting in tiny bubbles throughout the surface of the graphic. For maximum performance, be sure the substrate you select is properly cleaned and prepared as recommended by the manufacturer. See Instruction Bulletin 5.1 for additional information.

- Alodine (anodized aluminum)
- Automotive panels (automotive painted steel)
- Fruehauf (painted aluminum)
- FRP (fiberglass reinforced plywood)
- Glass
- Imron® (polyurethane-painted metal panel)
- Acrylic
- Sintra™ board

Test and Approve Non-warranted Substrates Before Use

Media 8522 is not warranted for any substrate other than those listed above. If you want to use it for other substrates, 3M recommends that you test and approve the media for both adhesion and removal characteristics.

Characteristics

Characteristic	Description
Media	7 mil, white, opaque graphic film
Liner	Low-slippage, lay flat paper
Adhesive	Changeable, pressure sensitive
Thickness (media and adhesive)	7.5 to 8 mil (nominal)
Application substrates	See Warranted Substrates, above
Application surfaces	Flat or simple curved surfaces, with or without rivets, used in vertical ($\pm 10^\circ$) applications (no corrugations)
Application temperature range	28° to 110°F (-2° to 43°C) (air and surface)
Roll sizes	36" x 45 feet (914 mm x 13.5 m) 54" x 45 feet (1372 mm x 13.5 m)

How to Become a 3M Ink Jet Registered Fabricator

Only 3M Thermal Ink Jet Registered Fabricators are eligible to offer 3M MCS warranted graphics. In order to become certified, a fabricator must complete the requirements as specified in the 3M Ink Jet Graphics Registered Fabricator Reference Manual located on the 3M website at www.scotchprint.com

Effective Performance Life

To obtain the warranty given below, the graphics must be made according to 3M's recommendations which are detailed in the Warranty and Limited Remedies on page 3. Also see the section, Removability.

Warranted Durability

Media 8522 with Overlaminates 8519 or 8520	Epson Printers		HP Printers	
	Outdoor	Indoor	Outdoor	Indoor
Applied to Warranted Substrates	2 years	5 years	3 years	5 years

Removability

Imaging media 8522 is removable from warranted substrates for 1 year without the aid of chemical strippers or accessories. Refer to Instruction Bulletin 4.23 for additional information.

Fabrication

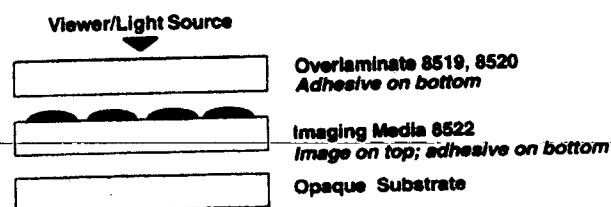
Graphics must be made according to 3M's recommendations which are detailed in the Warranty and Limited Remedies on page 3.

See Instruction Bulletin 4.23 for detailed fabrication, printing and mounting information.

Graphic Construction Options

Opaque (Reflective) Graphics

Opaque graphics made with imaging media 8522 require an overlaminate and an opaque substrate.




Note: For the full product names of the 3M products listed on this page, please see page 1.

Shelf Life and Storage

- 3M™ Scotchcal™ Changeable Opaque Imaging Media 8522 has a shelf life of one year.
- Storage conditions (new and partially used rolls). For optimum performance, use the middle of these ranges:
 - Original packaging, including plastic wrap
 - Relative humidity of 20% to 80%
 - Temperature of 33° to 104°F (0° to 40°C)
 - Away from direct sunlight
- Do not stack unprotected rolls or lay sharp or heavy objects on them.

Health and Safety

 **Caution**

When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information.

To obtain MSDS sheets for 3M products:

- By fax, call 1-800-364-0768 in the US and Canada or 1-650-556-8417 for all other locations.
- Electronically, visit us at <http://www.3M.com/msds>.
- By mail, or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.

Warranty and Limited Remedies

3M™ MCS™ Warranty for Graphics Produced on HP DesignJet Printers and Epson Stylus Pro Printers

The following is made in lieu of all other express or implied warranties, including any implied warranty of merchantability or fitness for a particular purpose: We warrant graphics produced by a 3M Ink Jet Registered Fabricator made with imaging media 8522, printed on an approved HP thermal ink jet printer according to HP's recommendations or Epson Stylus Pro printer according to Epson's recommendations, overlaminated with 8519 or 8520, and applied to a Warranted Substrate according to 3M's recommendations. These

graphics are covered against failure caused by ultraviolet light, temperature extremes, pollution, and other elements.

If a graphic fails to perform in accordance with 3M product specifications within this time frame, 3M will replace the materials at no charge. **These remedies are exclusive. In no case shall 3M be liable for any direct, indirect, or consequential damages, including any labor charges.**

3M Related Literature

Listed below is related 3M technical literature that may be of interest. You may view and print these Bulletins from our Web site at www.scotchprint.com, or order them via our Fax-on-Demand (FOD) system. Call one of these phone numbers to order the desired bulletins, and specify the FOD document number provided in the chart.

United States or Canada: 1-800-364-0768
International: 1-651-732-6506

Subject	Bulletin No.	FOD No.
Product Bulletins		
3M™ Scotchcal™ Overlamine 8519 and 8520	8519/8520	4524
Instruction Bulletins		
Making thermal ink jet graphics	4.23	6523
Application, substrate selection, preparation and substrate-specific application techniques	5.1	7001
Warranties		
Worldwide 3M™ MCS™ Warranty Packet (includes all Commercial Graphics MCS Warranties)		9503
Worldwide 3M™ MCS™ Warranty Overview-Folder		9504

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HP and DesignJet are tradenames of Hewlett Packard.
Sintra is a trademark of Swiss Aluminum Ltd.
Intron is a registered trademark of DuPont in the United States

Bulletin Change Summary

The Epson Stylus Pro Printers 9500, 10000 10600, and Epson Archival Inks have been added to this bulletin. Additional changes resulting from this addition are marked with black bars in the margin.

3M

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Product Bulletin 8522 - 3

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K6A 2H6

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INVOICE / FACTURE

VENDU À:
SOLD TO:

Dart Aerospace Ltd
1270 Aberdeen
Hawkesbury, Ontario
K6A 1K7

LIVRÉ À:
SHIPPED TO:

Dart Aerospace Ltd
Hawkesbury, Ontario

No.:

14224

DATE:

07/15/2010

PAGE

1 of 1

Re: Quote No. 9215

[illegible]

Sold By:

Merci! Thank You!